We claim:

1. A method of treating small intestinal bacterial overgrowth (SIBO) or a SIBO-caused condition in a human subject, said method comprising:

detecting in the subject by suitable detection means, the presence of SIBO, wherein a population of proliferating bacteria is present in the small intestine of the subject, or detecting with said means the absence of SIBO; and, if the presence of SIBO is detected in the subject,

depriving the bacterial population of nutrient(s) sufficiently to inhibit the growth of said bacteria in the small intestine, and thereby at least partially eradicating SIBO in the human subject.

2. The method of Claim 1, wherein the SIBO-caused condition is selected from the group consisting of irritable bowel syndrome, fibromyalgia, chronic pelvic pain syndrome, chronic fatigue syndrome, depression, impaired mentation, impaired memory, halitosis, tinnitus, sugar craving, autism, attention deficit/hyperactivity disorder, drug sensitivity, an autoimmune disease, and Crohn's disease.

3. The method of Claim 2, wherein the autoimmune disease is systemic lupus erythematosus or multiple sclerosis.

4. The method of Claim 1, further comprising:

in the presence of SIBO in the human subject,

causing the subject to consume, for a sustained period, a diet consisting essentially of nutrients that upon arrival in the upper gastrointestinal tract of the subject, are at least partially predigested, said sustained period being sufficient to at least partially eradicate SIBO in the human subject.

5. The method of Claim 4, wherein the period is at least about three days.

6. The method of Claim 4, wherein the at least partially predigested nutients are contained in a commestible total enteral nutrition formulation.

7. The method of Claim 4, further comprising:

administering to the subject a pancreatic enzyme supplement before or substantially simultaneously with a meal, such that nutrients contained in said meal are at least partially predigested in the upper gastrointestinal tract of the subject by the activity of said pancreatic enzyme supplement.

8. The method of Claim 1, further comprising:

in the presence of SIBO in the human subject,

enhancing the digestion and/or absorption of the nutrient(s) in the upper gastrointestinal tract of said human subject by slowing transit of said nutrients across the upper gastrointestinal tract of said human subject, thereby at least partially depriving the bacterial population of the nutrient(s).

9. The method of Claim 8, further comprising:

administering a pharmaceutically acceptable composition to said human subject by an oral or enteral delivery route, said human subject having an intrinsic cholinergic afferent neural pathway projecting from a peptide YY-sensitive primary sensory neuron in the intestinal wall of said subject to a prevertebral celiac ganglion and having an adrenergic efferent neural pathway projecting from said ganglion to one or more enterochromaffin cells in the intestinal mucosa and/or to a serotonergic interneuron linked in a myenteric plexus and/or submucous plexus to an opioid interneuron, said opioid interneuron also being linked by an intestino-fugal opioid pathway projecting to said ganglion, with one or more neural connections to the central nervous system and back to the gut projecting from the ganglion,

said pharmaceutically acceptable composition comprising an active agent, said active agent being selected from the group consisting of

(A) active lipids;

(B) serotonin, serotonin agonists, or serotonin re-uptake inhibitors;

(C) peptide YY or peptide YY functional analogs;

(D) calcitonin gene-related peptide or functional analogs thereof;

(E) adrenergic agonist;

(F) opioid agonists;

(G) combinations of any of (A), (B), (C), (D), (E) and/or (F); and

(H) antagonists of receptors for any of (B), (C), (D), (E) and/or (F),

said active agent being delivered in an amount and under conditions such that the cholinergic intestino-fugal pathway, at least one prevertebral ganglionic pathway, the adrenergic efferent neural pathway, the serotonergic interneuron and/or the opioid interneuron are activated by the action of any of (A) through (G), whereby the rate of upper gastrointestinal transit in the subject is slowed, thereby enhancing the digestion and/or absorption of the nutrient(s) in the upper gastrointestinal tract of said human subject.

10. The method of Claim 8, further comprising:

administering a gastrointestinal transit-slowing composition comprising a carrier and a dispersion consisting essentially of an active lipid in the carrier, the active lipid being selected from the group consisting of saturated and unsaturated fatty acids, fully hydrolyzed fats and mixtures thereof, in an amount and in a form effective to promote contact of the lipid with the subject's small intestine and thereby slow gastrointestinal transit and at least partially eradicate SIBO in the human subject.

11. The method of Claim 10, wherein the active lipid is selected from the group consisting of:

(A) caprolic acid, caprulic acid, capric acid, lauric acid, myristic acid, oleic acid, palmitic acid, stearic acid, palmitoleic acid, linoleic acid, linolenic acid, trans-hexadecanoic acid, elaidic acid, columbinic acid, arachidic acid, behenic acid eicosenoic acid, erucic acid, bressidic acid, cetoleic acid, nervonic acid, Mead acid, arachidonic acid, timnodonic acid, clupanodonic acid, or docosahexaenoic acid;

(B) pharmaceutically acceptable salts of any of (A); and

(C) mixtures of any of (A) or (B).

12. The method of Claim 11, wherein the active lipid comprises oleic acid or a pharmaceutically acceptable oleate salt.

13. The method of Claim 10, wherein the active lipid comprises fully hydrolyzed fats.

14. The method of Claim 10, wherein the active lipid comprises a fatty acid or a pharmaceutically acceptable salt thereof.

15. The method of Claim 10, wherein the active lipid is:

(A) a fatty acid selected from the group of (C4-C24) saturated and unsaturated fatty acids;

(B)a pharmaceutically acceptable salt of any of (A); or

(C) a mixture of any of (A) and/or (B).

16. The method of Claim 10, wherein the fatty acid comprises oleic acid, a pharmaceutically acceptable oleate salt, or a mixture of either of these with other fatty acids or salts thereof.

17. The method of Claim 9, wherein oral administration is by ingestion of coated or uncoated microspheres or particles, of a dispersible powder or granule formulation, of a suspension, emulsion, solution, syrup, or elixir, or of a coated or uncoated tablet, troche, capsule, caplet, or lozenge.

18. The method of Claim 10, wherein oral administration is by ingestion of coated or uncoated microspheres or particles, of a dispersible powder or granule formulation, of a suspension, emulsion, solution, syrup, or elixir, or of a coated or uncoated tablet, troche, capsule, caplet, or lozenge.

19. The method of Claim 9, wherein the active agent is selected from the group consisting of serotonin, serotonin agonists, serotonin re-uptake inhibitors, 5-HT3 receptor antagonists, and 5-HT4 receptor antagonists.

20. The method of Claim 19, wherein the active agent is serotonin, and the serotonin is administered to the human subject, before or substantially simultaneously with a meal, in an amount from about 0.03 to about 0.1 mg/kg body mass.

21. A method of treating small intestinal bacterial overgrowth (SIBO) or a SIBO-caused condition in a human subject, said method comprising:

detecting in the subject by suitable detection means, the presence of SIBO, wherein a population of proliferating bacteria is present in the small intestine of the subject, or detecting with said means the absence of SIBO; and, if the presence of SIBO is detected in the subject,

introducing into the lumen of the small intestine of the subject a pharmaceutically acceptable disinfectant composition in an amount sufficient to inhibit the growth of said bacteria in the small intestine, and thereby at least partially eradicating SIBO in the human subject.

22. The method of Claim 21, wherein the pharmaceutically acceptable disinfectant composition consists essentially of

(A) hydrogen peroxide,

(B) a bismuth-containing compound,

(C) an iodine-containing compound, or

(D) a salt of (B) or (C).

23. The method of Claim 21, wherein the SIBO-caused condition is selected from the the group consisting of irritable bowel syndrome, fibromyalgia, chronic pelvic pain syndrome, chronic fatigue syndrome, depression, impaired mentation, impaired memory, halitosis, tinnitus, sugar craving,

autism, attention deficit/hyperactivity disorder, drug sensitivity, an autoimmune disease, and Crohn's disease.

24. The method of Claim 23, wherein the autoimmune disease is systemic lupus erythematosus or multiple sclerosis.

25. A method of treating small intestinal bacterial overgrowth (SIBO) or a SIBO-caused condition in a human subject, said method comprising:

detecting in the subject by suitable detection means, the presence of SIBO, wherein a population of proliferating bacteria is present in the small intestine of the subject, or detecting with said means the absence of SIBO; and, if the presence of SIBO is detected in the subject,

administering to the subject a pharmaceutically acceptable composition comprising a stabilizer of mast cell membranes in the lumenal wall of the small intestine, in an amount sufficient to inhibit a mast cell-mediated immune response in the human subject.

26. The method of Claim 25, wherein the SIBO-caused condition is selected from the the group consisting of fibromyalgia, chronic pelvic pain syndrome, chronic fatigue syndrome, depression, impaired mentation, impaired memory, halitosis, tinnitus, sugar craving, autism, attention deficit/hyperactivity disorder, drug sensitivity, an autoimmune disease, and Crohn's disease.

27. The method of Claim 26, wherein the autoimmune disease is systemic lupus erythematosus or multiple sclerosis.

28. The method of Claim 25, wherein the stabilizer of lumenal mast cells is oxatamide or chromoglycate.

29. A method of screening for the abnormally likely presence of SIBO in a human subject, comprising:

obtaining a serum sample from the subject;

quantitatively determining a concentration in the serum sample of serotonin, one or more unconjugated bile acid(s), and/or folate, an abnormally elevated serum concentration of one or more of these being indicative of a higher than normal probability that SIBO is present in the subject.

30. A method of detecting small intestinal bacterial overgrowth (SIBO) in a human subject, comprising:

detecting the relative amounts of methane, hydrogen, and at least one sulfur-containing gas in a gas mixture exhaled by said human subject, after said human subject has ingested a controlled quantity of a substrate, said gas mixture being at least partially produced by the intestinal microflora of said human subject.

31. The method of Claim 30, wherein the substrate is an isotope-labeled sugar or a sugar that is poorly digestible by a human.

32. The method of Claim 31, wherein the sugar is glucose, lactose, sucrose, lactulose or xylose.

33. The method of Claim 30, wherein detecting the relative amounts of methane, hydrogen, and at least one sulfur-containing gas in the exhaled gas mixture is accomplished by gas chromatography and/or a radiation detection system.

34. The method of Claim 30, wherein detecting the relative amounts of methane, hydrogen, and at least one sulfur-containing gas in the exhaled gas mixture is accomplished by mass spectrometry.

35. The method of Claim 30, wherein detecting the relative amounts of methane, hydrogen, and at least one sulfur-containing gas in the exhaled gas mixture is accomplished using thin-layer chromatography, high pressure liquid chromatography, an electrochemical voltametric sensor, or a polarographic cell

36. The method of Claim 30, wherein the at least one sulfur-containing gas is hydrogen sulfide or a sulfhydryl compound.

37. The method of Claim 30, wherein the at least one sulfur-containing gas is methanethiol, dimethylsulfide, dimethyl disulfide, an allyl methyl sulfide, an allyl methyl sulfide, an allyl methyl disulfide, an allyl disulfide, an allyl mercaptan, or a methylmercaptan.

38. A method of determining the relative severity of SIBO or a SIBO-caused condition in a human subject in whom SIBO has been detected, comprising:

detecting in the subject by suitable detection means, the presence of SIBO, or detecting with said means the absence of SIBO; and, if the presence of SIBO is detected in the subject,

detecting in the subject by suitable detection means a relative level of intestinal permeability, abnormally high intestinal permeability indicating a relatively severe SIBO or SIBO-caused condition in the subject.

39. A kit for the diagnosis of SIBO or a SIBO-caused condition, comprising: at least one breath sampling container, a pre-measured amount of a substrate, and instructions for a user in detecting the presence or absence of SIBO by determining the relative amounts of methane, hydrogen, and at least one sulfur-containing gas in a gas mixture exhaled by said human subject, after said human subject has ingested a controlled quantity of the substrate.

40. The kit of Claim 39, wherein the pre-measured substrate is isotope-labeled or poorly digestible by a human.

41. The kit of Claim 39, wherein the pre-measured substrate is glucose, lactose, sucrose, lactulose or xylose.

42. The kit of Claim 39, wherein the pre-measured substrate is a sugar.

43. The kit of Claim 39, further comprising standardized samples of methane, hydrogen, and at least one sulfur-containing gas.

44. The kit of Claim 39, wherein the at least one sulfur-containing gas is hydrogen sulfide or a sulfhydryl compound.

45. The kit of Claim 39, wherein the at least one sulfur-containing gas is methanethiol, dimethylsulfide, dimethyl disulfide, an allyl methyl sulfide, an allyl methyl sulfide, an allyl methyl disulfide, an allyl disulfide, an allyl mercaptan, or a methylmercaptan.